**Aim:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Key Points:**

1. Graphs, Tables and Equations (G.E.T) all display the same information in different ways
2. Equations can show us a relationship in a condensed way
3. Linear equations help us to accurately predict values of x and y
4. In order to write an equation from a table, we need to find a rule between x and y. (Ask: What is happening to X to give us Y? The rule MUST work for every relationship!!!!)

**Examples/Notes:**

|  |  |  |
| --- | --- | --- |
| **Table** | **Rule and Thoughts** | **Equation** |
| |  |  | | --- | --- | | **In**  **(X)** | **Out (Y)** | | 1 | 8 | | 2 | 16 | | 3 | 24 | | 4 | 32 | | I look at the first row and think:  How do I get from 1 to 8? I know that I can 7 to 1 and get 8. Now I check that rule (add 7) to the next row. However, 2 + 7 ≠ 16. Now I know that the rule +7 does not work.  So I think:  I can multiply 1 x 8 and it works for the second row too (2 **x 8** = 16). As I continue I see that it works for every row. So my rule is multiply by 8. | So I know the rule is x 8 (multiply by 8)  I can write that as an equation like this:  X ● 8 = Y  or  8X = Y  Now I can use that equation to find the value of Y for any given x.  For example, if X= 8 then Y=64 because:  8(8) = 64 |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | **X** | 1 | 2 | 3 | 4 | | **Y** | 8 | 9 | 10 | 11 | | What is the rule for this chart?  Check again, are you sure it works for ALL values of X and Y? | Use your rule to write an equation.  Think what is happening to X in order to get to Y? |

|  |  |  |
| --- | --- | --- |
| **Table** | **Rule** | **Equation** |
|  |  |  |
|  |  |  |
| |  |  | | --- | --- | | **Number of Books** | **Price Paid** | | 6 | $30.00 | | 12 | $60.00 | | 18 | $90.00 | |  |  |
|  |  |  |